

15U125

FIRST SEMESTER DEGREE EXTERNAL EXAMINATION DEC/JAN 2015-16

(2015 ADMISSION)

COMPLEMENTARY COURSE – COMPUTER SCIENCE

CC15UCSC1C01-COMPUTER FUNDAMENTALS

Time: Three Hours

Max. Marks: 64

PART A

Answer *all* questions. Each question carries 1 mark.

1. What are the components of a computer?
2. What is Boolean Algebra?
3. State De Morgans theorem.
4. $(10101010)_2 + (01010101)_2 = \text{-----}$
5. What is Hamming code?
6. What is a register?
7. 1KB = ----- bytes
8. What is a point and draw device? Give an example.
9. What is an algorithm?

(9X1=9)

PART B

Answer *all* questions. Each question carries 2 marks.

10. Convert $(F4C)_{16}$ and $(101010)_2$ to decimal.
11. What is a byte? How does it differ from a nibble?
12. What is a digitizer?
13. What are I O devices?

14. Write the truth table and logic circuit for NAND and NOR. (5X2=10)

PART C

Answer *any five* questions. Each question carries **5** marks.

15. What are the characteristics of a computer?
16. Explain the various coding systems: ASCII, BCD, EBCDIC.
17. Using 2's complement method subtract 101011_2 from 111001_2 . Verify the result using 1's complement method.
18. Describe briefly about impact and non- impact printers.
19. Multiply the following
- a. $(10101)_2 \times (111)_2$
 - b. $(11011)_2 \times (1011)_2$
20. Explain the working of a magnetic disk.
21. Explain binary full adder.
22. Draw a flowchart to find the greatest of 3 numbers. (5X5=25)

PART D

Answer *any two* questions. Each question carries **10** marks.

23. Perform the following conversions
- a. $(5673)_{10}$ to binary and hexadecimal (4)
 - b. $(604.045)_{10}$ to binary (2)
 - c. 11100111_2 to octal and hexadecimal (4)
24. Write a note on classifications of primary and secondary memory.
25. Explain about

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- a. Plotter
- b. MICR
- c. Scanner
- d. Keyboard
- e. OCR

(Each carries 2 marks)

(2X10=20)
